International Journal of Advances in Medicine
Kurian E et al. Int J Adv Med. 2021 Nov;8(11):1743-1745
http://www.ijmedicine.com
pISSN 2349-3925 | eISSN 2349-3933
DOI: https://dx.doi.org/10.18203/2349-3933.ijam20214069

Case Report

A case report of perinephric abscess extending as psoas abscess

Elizabeth Kurian*, Rajeev Anand, Rebin Bos, Jijo Joseph

Department of Radiology, MOSC Medical College, Kolenchery, Kerala, India

Received: 29 September 2021
Revised: 05 October 2021
Accepted: 06 October 2021

***Correspondence:**
Dr. Elizabeth Kurian,
E-mail: el212el@gmail.com

ABSTRACT

Iliopsoas abscess is a rare clinical entity. It is even more uncommon for psoas abscess to develop in association with genitourinary infections like perinephric abscess because of the retroperitoneal anatomy. Here we present an unusual case of a perinephric abscess extending as psoas abscess which was treated with computed tomography (CT) guided drainage.

Keywords: Psoas abscess, Perinephric abscess, CT guided drainage

INTRODUCTION

Iliopsoas abscess is a rare clinical entity. It is described as collection of pus in the iliopsoas compartment.[1,2] Bound anteriorly by the transversalis fascia, superiorly by endothoracic fascia and inferiorly by the fascia lata of the thigh, the iliopsoas compartment is an extraretroperitoneal space that runs along the posterior aspect of abdomen and pelvis and extends into the thigh.

Psoas abscesses can be classified as either primary or secondary. Primary psoas abscess occurs most commonly in patients with history of diabetes, injection drug use, alcoholism, acquired immune-deficiency syndrome (AIDS), renal failure, haematological malignancy, immunosuppression or malnutrition.[1]

Underlying gastrointestinal tract diseases, especially inflammatory bowel disease are the most common secondary cause of psoas abscess. There are only few cases of psoas abscess secondary to renal causes reported in literature. Here we present a rare case of a perinephric abscess extending as a psoas abscess.

CASE REPORT

This is a case report of 65 year old female who presented to the outpatient department (OPD) with complaints of left sided flank pain. She is a known case of seizure disorder and hypertension on regular medications. She is an old operated case of basilar top aneurysm (status post endovascular aneurysm coiling).

1 month back for complaints of low back ache.

On examination she was afebrile and vitals were stable. Systemic examination was normal.

Patient was admitted and routine blood and urine investigations were done. It showed raised erythrocyte sedimentation rate (ESR) with albumin-to-globulin (A/G) reversal. Antinuclear antibody (ANA) profile was positive supportive of drug induced lupus.

USG abdomen was done for the left sided flank pain. Ultrasonography (USG) showed a heterogeneously hypoechoic and bulky left kidney measuring 10.6×7.4 cm. Ill-defined hypoechoic areas were noted within which

showed no vascularity. Hypoechoic perinephric collection /soft tissue with a thickness of 11 mm was noted. Bilateral simple renal cysts were also noted. Features were suggestive of an infective aetiology-perinephric abscess.

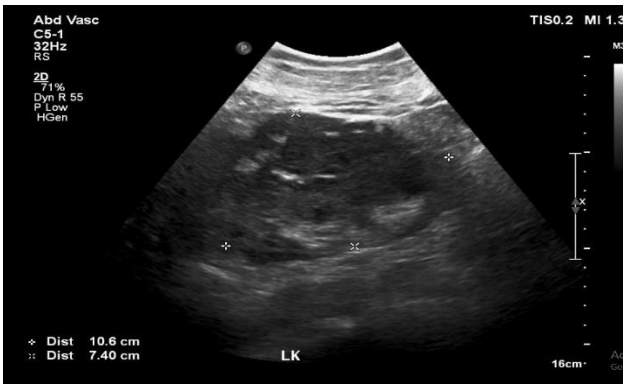

Figure 1: Left kidney appears bulky with hypoechoeic area noted adjacent to it.

For further evaluation a contrast enhanced computed tomography (CECT) abdomen was done which showed a poorly marginated diffuse multiloculated rim enhancing lesion (measuring ~ 5.8×9.4×9.1 cm (AP×TR×CC) involving the subcapsular space of left kidney causing indentation of its mid pole renal parenchyma with minimal involvement of outer cortical renal parenchyma.

Epicentre of lesion appeared to be in posterior perinephric space which was seen infiltrating into adjacent psoas, quadratus lumborum and left paraspinal muscles (at L2-L4 vertebral levels).

Adjacent mild mesenteric and abdominal wall soft tissue stranding was also noted

From the CECT abdomen a perinephric abscess extending as psoas abscess was considered with a Koch's aetiology.

Magnetic resonance imaging (MRI) was done which conformed the findings.

Figure 2: Plain CT axial section shows perinephric abscess extending as psoas abscess.

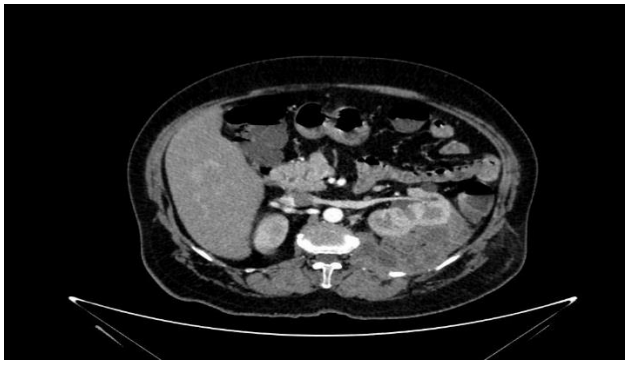

Figure 3: Contrast enhanced axial sections.

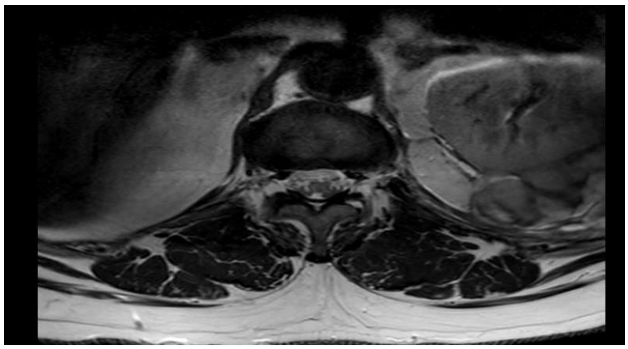

Figure 4: MRI images of the same.

Department of urology and nephrology consultation was done for the same. Department of urology advised for computed tomography (CT) guided aspiration of perinephric abscess.

CT guided aspiration was done and pig tail catheter was placed in the left perinephric region. Pus was drained under aseptic conditions and was sent for acid-fast bacilli (AFB)/culture and sensitivity. AFB smear was negative. Pus showed growth of pseudomonas aeruginosa. Cartridge based nucleic acid amplification test (CBNAAT) done was also negative. Repeat CECT abdomen was done 5 days later which showed significant reduction in the size of the collection in the perinephric region and moderate reduction in the paraspinal abscess.

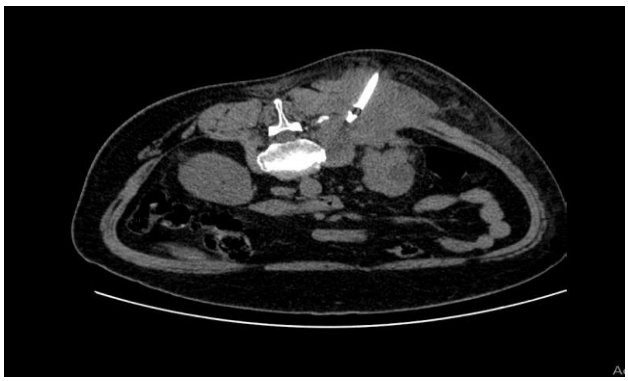

Figure 5: CT guided pigtail drainage.

Patient was further managed with intravenous antibiotics and supportive measures.

Check CT was done 2 weeks later which showed no evidence of collection. There was mild thickening of the left perinephric fascia, left psoas, and left posterior paraspinal region representing granulation tissue of healing.

DISCUSSION

Psoas muscle is a long fusiform muscle placed on the side of the lumbar region of the vertebral column and brim of lesser pelvis. It arises from lateral borders of T12–L5 vertebrae and is inserted into the lesser trochanter of femur after receiving fibres of the iliacus muscle. The psoas muscle lies in close proximity to organs such as sigmoid colon, appendix, jejunum, ureters, abdominal aorta, kidneys, pancreas, spine and iliac lymph nodes. Hence infections in these organs can spread to the iliopsoas muscle. The abundant blood supply of muscle is believed to predispose it to hematogenous spread from occult sites of infection. However, it is uncommon for psoas abscess to develop in association with genitourinary infections like perinephric abscess because of the retroperitoneal anatomy.

The retroperitoneum is divided into 3 spaces by the anterior and posterior renal fascia-The anterior pararenal space, the perirenal space and the posterior pararenal space.

The perirenal space lies between the anterior and posterior renal fascia and contains the kidneys, adrenals, proximal renal collecting systems and renal hilar vessels. The large amount of perirenal fat divided by the bridging septa can often confine pathological perirenal processes to portions of the perirenal space, thereby making the spread of pathology to the psoas compartment unusual.

The most commonly encountered organisms in psoas abscess include staphylococcus aureus and mycobacterium tuberculosis. Other organisms include *Enterococcus, Klebsiella pneumoniae, Pseudomonas aeruginosa* and *Escherichia coli.*

The clinical presentation is often variable and non-specific. The classical clinical triad consisting of fever, backache and limp is present on only 30% of the patients with iliopsoas abscess.[1,2]

In one case report of pyogenic psoas abscess the patient had only non-specific leg pain.[2]

Psoas abscess can also occur as an unusual complication, Al Shehri et al for example reported a case of late onset iliopsoas abscess due to stump appendicitis.[3]

Investigations may reveal elevated white cell counts, ESR and C-reactive protein (CRP).

Even though an ultrasound examination is radiation free, it is highly operator dependant and the retroperitoneal space may be difficult to visualize. Computed tomography is done for definitive diagnosis but some authors believe MRI may be superior because of better discrimination of soft tissue.[4,5]

Treatment usually involves usage of appropriate antibiotics and prompt drainage.[4]

CONCLUSION

Here we present an unusual case of perinephric abscess extending as a psoas abscess. As ultrasound showed a hypoechoic perinephric collection a CT was done. The computed tomography imaging was able to identify the extension into the psoas compartment and characterise the psoas abscess. Further the CT was able to guide the percutaneous aspiration and placement of percutaneous drainage catheters, thus eliminating the need for definitive surgical procedures.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Xu BY, Vasanwala FF, Low SG. A case report of an atypical presentation of pyogenic iliopsoas abscess. BMC Infect Dis. 2019;19(1):58.
2. Cargill T, Gupta V, Thomas P. Pyogenic iliopsoas abscess: an uncommon presentation of nonspecific leg pain. J Acute Med. 2014;4(4):154-6.
3. Al Shehri DM, Asiri AK, El Maksoud WM. Late onset Ilio-psoas abscess due to stump appendicitis: a case report. J Biomed Res. 2017;31(5):462.
4. Akhaddar A, Hall W, Ramraoui M, Nabil M, Elkhader A. Primary tuberculous psoas abscess as a postpartum complication. Case Rep Literature Rev. 2018;9:239.
5. Tadtayev S, Hanbury D. Urological Iliopsoas Abscess. Urology News. 2012;16(3):13-6.

Cite this article as: Kurian E, Anand R, Bos R, Joseph J. A case report of perinephric abscess extending as psoas abscess. Int J Adv Med 2021;8:1743-5.